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Client-professional interaction and level of participation in preventive health screenings in community-dwelling African American older adults : testing a middle-range theory derived from Cox's Interaction Model of Client Health Behavior (IMCHB)

Becky Lynn Fields
University of Tennessee

To the Graduate Council:

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Sandra Paul Thomas, Major Professor

We have read this dissertation and recommend its acceptance:

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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Martha L. Alligood

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Accepted for the Council:

Vice Provost and Dean of
Graduate Studies

CLIENT-PROFESSIONAL INTERACTION AND LEVEL OF PARTICIPATION IN PREVENTIVE HEALTH SCREENINGS IN COMMUNITY-DWELLING AFRICAN AMERICAN OLDER ADULTS: TESTING A MIDDLE-RANGE THEORY DERIVED FROM COX'S INTERACTION MODEL OF CLIENT HEALTH BEHAVIOR (IMCHB)

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ABSTRACT

The purpose of this study was to test a middle-range Theory of Level of Participation in Preventive Health Screening among Community-dwelling African American Older Adults derived from Cox's (1982) Interaction Model of Client Health Behavior. This descriptive correlational study described the variables related to level of participation in health screenings of older African Americans living in the community and determined if a significant relationship existed between satisfying and effective client/professional interaction and level of participation in health screenings in African American older adults. The sample was obtained from the Medical Expenditure Panel Survey conducted by the Agency for Health Care Research and Quality to provide nationally representative estimates of health care expenditure, insurance coverage, payment sources, and service utilization. The sample consisted of 266 African American older adults, (99 men, 167 women), 65 years of age and older, with a range of 65 to 90 years of age and a mean age of 73.73.

Using Cox's Model, background variables in this study were, age, sex, education, marital status, poverty status, and insurance coverage. No significant relationships were found among the background variables and level of participation in preventive health screenings. Cognitive appraisal was operationalized by measures of general health and mental health perception. Surprisingly, multiple linear regression revealed that clients with excellent perception of health have lower level of participation in preventive health screenings (B=-1.46, p=0.0023). As predicted by the theory, participants with higher levels of satisfaction with client-professional were found to have higher level of participation in preventive health screenings (B=0.35, p=0.0137). In a regression model

combining background variables, cognitive appraisal variables, and client-professional interaction, only client-professional interaction was significantly related to level of participation in preventive health screenings (B=0.36, p=0.0100). A surprising finding was that there was no difference between men and women in level of participation in preventive health screenings.

The study findings from this beginning descriptive study provided empirical evidence for the middle-range theory that satisfaction with client-professional interaction is significantly related to level of participation in preventive health screenings by community-dwelling African American older adults. This study expanded nursing science as it relates to African American older adults, specifically to their level of participation in preventive health screenings. While the results supported the middle-range theory, there still was a large percentage of variance not explained by the study variables. These findings highlight the need for further research to improve understanding of all the elements involved in level of participation in preventive health screenings by community-dwelling African American older adults.

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CHAPTER 1

Introduction

Introduction

"Wish not so much to live long, but to live well."-Benjamin Franklin

The population of older adults in the United States is increasing at a rate greater than that of the total population. As the last cohort of the "baby boomers" turns 65 and older, between 2010-2030, the aged will number 70 million, the largest number of older adults ever in American history (Administration on Aging [AoA], 1999). In 2000, there were 35 million older adults, 65 years and older, an estimated 13% of the total population or one in eight Americans. This is a ten-fold increase since 1900 (Federal Interagency Forum on Aging Related Statistics, 2001).

Currently, African Americans are the largest group of minority older adults in the United States. There are 2.49 million African American older adults 65 years of age and older. By the year 2050, this group of seniors is expected to quadruple (AoA, 1999; U.S. Census, 2000). This rapid growth in the number of African American older adults merits the attention of health care providers because little is known about the relationships of certain indicators to health service utilization of this population.

Although there is an increase in the number of African American older adults, life expectancy for this group of minority older adults continues to be below the national average. When compared to white older adults, life expectancy is 8.5 years lower for African American older men than for white older men and 5.9 years lower for African American older women than for white older women (AoA, 2001; U.S. Census Bureau,

2000). Because men live fewer years than women, research studies involving older adults usually contain few males, and even fewer studies have focused primarily on men. Currently, comparisons in African American health are frequently done in comparison with the majority culture. There are few studies that examine African American health without comparison. This gap in our research results in a lack of understanding of how gender and race impact health service utilization.

Divergence in life expectancy of African American older adults is primarily due to the disproportionate incidence of obesity, heart disease, stroke, diabetes and cancer. According to the National Center for Health Statistics (1999), African American older adults, unfortunately, have higher morbidity and higher mortality than all other Americans, especially white older adults, in the areas of diabetes, hypertension, obesity, cardiovascular disease, AIDS, cerebrovascular disease and cancer. For example, complications from diabetes such as blindness, heart disease, and end-stage renal disease are increasing faster among African Americans than in the total population. Foot and limb amputations are 60% more common in African American men and women compared to white women (The National Women's Health Information Center, 1999). While cardiovascular disease is the number one cause of death in all U.S. populations and adult age groups, the mortality rate is higher for African American males. Empirical explanation for this gender difference is lacking in the literature due to minimal African American male samples. Older African Americans also report more disability from chronic disease and are more likely to be disabled, die or develop chronic diseases at an earlier age than whites (Chadiha, Proctor, Morrow-Howell, Darkwa, & et al, 1995; National Center for Health Statistics, 1999; Reed, 1990). Hypertension is a major risk

factor for coronary heart disease and cerebrovascular disease and affects African American women's health outcome more than other minority women (The National Women's Health Information Center, 1999; United States Department of Health and Human Services [DHHS], 1998).

While these epidemiological statistics underscore the poor health status of African American older adults, they also have significant economic implications. The direct and indirect costs of health care for diabetes have been estimated at $100 billion per year (Roman & Harris, 1997). The economic burden for cardiovascular diseases has been estimated to range between $50-100 billion per year (Hann, 1996). Cancer costs have been estimated to be $107 billion annually (Centers for Disease Control and Prevention [CDC], 2001). Healthcare expenditures from these diseases and disabilities are especially significant since African Americans often lack health insurance and funds for the pharmacological therapy often needed for treatment (Fortess, Soumerai, McLaughlin, & Ross-Degnan, 2001). This inadequate access to economic resources for health care is an example of what has been described as "structured racism" and one of the many daily "racial insults" reported to contribute to stress-related health problems such as hypertension and diabetes (Damron-Rodriguez, 1998; The National Women's Health Information Center, 1999).

Support for the view regarding racist treatment of African American older adults is demonstrated by the well-known history of discriminatory practices against them resulting in economic disparity and employment without healthcare benefits. Without the luxury of sick leave, many of these individuals were forced to work despite their health

status. Given these older adults' history, Giger and Davidhizar (1997) suggest that the lack of participation in preventive health screenings health behavior on the part of African American older adults is predictable due to their disenfranchisement. Without compensation for healthcare, they did not learn or develop the habit of practicing preventive care. Therefore, African American older adults have been found to be less likely to participate in screenings such as blood pressure, colorectal, pap and dental checks or mammography (Coleman, & O'Sullivan, 2001; Lemon, Zapka, Puleo, Luckmann, & et al, 2001; Martin, & Panicucci, 1996; White, Begg, Fishman, Guthrie, et al, 1993).

Another explanation for lack of participation in preventive screenings and physical examinations by African American elders is their understandable mistrust and dissatisfaction in the healthcare system. Unfortunately, many African American older adults clearly recall the many incidences of health discrimination and segregation perpetrated by members of the healthcare system. Prior to the passage of the Civil Rights Act in 1964, many Southern States segregated African Americans into inadequate and inferior hospital wards. Many African American older adults vividly recall the Tuskegee Experiment of 1932-1972, where 400 African American men unknowingly participated in a study examining the effect of untreated syphilis (Carroll-Johnson, 1997; Jack, Hanson & Airhihenbawa, 1994). Having survived the experiences of racism and inequitable treatment, many of these older adults have become socialized not to expect to receive equal, fair or safe treatment from health are providers. This belief often results in African American older adults feeling "distanced" and unwelcome within the predominantly White healthcare arena. This belief is reinforced by the communication

barriers and disrespectful treatment received from members of the healthcare system (The National Women's Health Information Center, 1999; Zhan, Cloutterbuck, Keshian, & Lombardi, 1998). Communication style and coping mechanisms developed by these older adults to function within a racist culture may interfere with the client-professional interaction, alter the sharing of health information and skew provider technical competency.

For example, in a large national telephone survey of 10,130 persons, Blendon, Aiken, Freeman and Corey (1989) found through telephone interviews, that three times as many African Americans as Whites were likely to encounter problems gaining access to their designated primary healthcare providers. Many individuals often were not aware whom or where the primary care provider was located. If they were able to gain access, they were more likely to be dissatisfied with the care received from the provider during office visits. Among the complaints were: (1) insufficient information concerning their illness or injury, (2) no discussion regarding their complaint of pain, and (3) no discussion regarding test results. In addition, they also reported that they waited 30 minutes longer than White patients before being seen by the provider. While these findings are disturbing, subjects surveyed for the study were fortunate to have a telephone and be included. Individuals without a telephone may have even greater difficulty locating and contacting their designated health provider. No study of African American older adults in isolated situations such as having no telephone could be found.

Hence, the interaction between patients and their care providers may be an important influence in addressing issues related to health disparities, health outcomes,

and cultural competency. Therefore research is needed to provide understanding of indicators of health service utilization, especially level of participation in preventive screenings, among community-dwelling African American older adults.

Purpose

Therefore, the purpose of this descriptive-correlational study was to test a middle range theory, derived from Cox's Interaction Model of Client Health Behavior (IMCHB), that examined the relationships among client singularity variables, client-professional interaction and health outcome in a sample of African American community-dwelling older men and women. This theory proposed that the relationship between effective and satisfying client-professional interaction and level of participation in preventive health screenings will be more significant than the relationship between client singularity and level of participation in preventive health screenings.

Theoretical Framework

Providing answers to the complex issues of health service utilization in African American older adults is strengthened when those answers are sought within a theoretical framework. Therefore, the middle range theory of preventive health screening among African American community-dwelling older adults was developed to provide understanding of the phenomenon of level of participation in preventive health screenings among community-dwelling African American older adults. This theory is derived from Cox's (1982) Interaction Model of Client Health Behavior (IMCHB). Cox's IMCHB is a multidimensional model of health care behavior that seeks to holistically address the relationship among client singularity variables, client-professional relationship, and health outcomes. This model can be "applied in most any health care setting and to any

professional health care provider" (Cox & Roghmann, 1984, p. 275). The major assumption underlying Cox's model is that:

> "health outcome is determined by the fit of the provider reactions to the clients' responses to a health concern...[and] this conceptualization gives greater weight to what occurs in the client-professional interaction rather than shifting the total responsibility for outcome to the client" (Cox & Roghmann, 1984, p. 276).

This study will use all three elements of the IMCHB: client singularity, client-professional interaction, and health outcome. Each element involves several variables. (See Table 1.) Included within the construct of client singularity for this study are demographic characteristics, social influence, environmental resources, cognitive appraisal and affective response. Affective support and professional/technical competencies will be investigated as elements of client-professional interaction. The health outcome to be examined, health service utilization, was operationalized in this study as level of participation in preventive health screening (See Table 2).

Specifically, in this research study, elements of client singularity and two components, affective support and professional/technical competency, of the client-professional interaction, have been selected to examine their contribution to level of participation in preventive health screening among African American older adults.

In Table 3, client elements and variables are operationalized for this study. In the following paragraphs the three elements of the IMCHB are defined and discussed.

Table 1: Cox's Interaction Model of Client Health Behavior

Elements of Client Singularity		Elements of Client-Professional Interaction	Element of Health Outcome
Background variables			
Demographic characteristics		Affective support	Utilization of health care services
Social influence	Cognitive Appraisal	Health information	Clinical health status indicators
Previous health care experience		Decisional control	Severity of health care problem
Environmental resources	Affective Response	Professional-technical competencies	Adherence to recommended care regimen
	Intrinsic Motivation		Satisfaction with care

Source: Adapted from Cox, C.L. (1982). An interaction model of client health behavior: Theoretical prescription for nursing. *Advances in Nursing Science*, 10, 41-56.

Table 2: Conceptual Framework: Theory of Preventive Health Screening by African American Community-dwelling Older Adults Derived From Cox's Interaction Model of Client Health Behavior

Elements of Client Singularity		Elements of Professional Interaction	Element of Health Outcome
Background variables			
Demographic characteristics (age, race, sex)		Affective support (appt. difficulty, wait time, phone difficulty)	Utilization of health care services (cholesterol screening, physical exam., flu shot, blood pressure check)
Social influence (partner status, education)	Cognitive Appraisal (perceived health, perceived mental health)		
Environmental resources (poverty category, public or private insurance)		Professional-technical competencies (satisfied with care)	
	Non-recursive block		

Source: Adapted from Cox, C.L. (1982). An interaction model of client health behavior: Theoretical prescription for nursing. *Advances in Nursing Science*, 10, 41-56.

Table 3. Variables for Theory of Preventive Health Screening Among African American Older Adults

Cox's IMCHB Concepts Independent Variables	Study Concepts as operationalized	Coding Categories
Demographic characteristics	Age	65 years and older
	Sex	1 = male 2 = female
Social influences	Education	Number of years
	Marital status	1 = unpartnered 2 = partnered
Environmental resources	Poverty category	1 = less than 100% poverty line 2 = 100-124% 3 = 125-199% 4 = 200-399% 5 = greater or equal to 400%
	Insurance coverage	1 = any private 2 = public only
Cognitive appraisal	Perceived health status	1 = excellent 2 = very good 3 = good 4 = fair 5 = poor
	Perceived mental health	1 = excellent 2 = very good 3 = good 4 = fair 5 = poor
Affective support	"How difficult to get appt. with usual source of care provider?"	1 = not at all difficult 2 = not too difficult 3 = somewhat difficult 4 = very difficult
	"With appt., how long til seen by usual source of care provider?"	1 = <5 minutes 2 = 5 to 15 minutes 3 = 16 to 30 minutes 4 = 31 – 59 minutes 5 = 1-2 hours 6 = >2 hours
	"How difficult contact usual source of care provider by phone?"	1 = not at all difficult 2 = not too difficult 3 = somewhat difficult 4 = very difficult
Professional/technical competencies	"Satisfied with quality of care."	1 = very satisfied 2 = somewhat satisfied 3 = not too satisfied
Dependent variable	Blood pressure check within past year	1 = yes 2 = no
Utilization of health care services	Cholesterol check within past year	1 = yes 2 = no
	Complete physical within past year	1 = yes 2 = no
	Flu shot within past year	1 = yes 2 = no

***Study Concepts are listed in terms of the Medical Expenditure Panel Survey Variables names contained in the raw dataset**

Elements of Client Singularity

There are four dynamic, interrelated variables referred to as background variables that combine to form a unique description of the individual. These variables are demographic characteristics, social influence, previous health care experience and environmental resources. The other elements of client singularity, intrinsic motivation, cognitive appraisal and affective response, are interrelated and can "act as mediators to each other as well as to subsequent behavior" (Cox, 1986, p. 51). Intrinsic motivation refers to the client's "choice, desire...competency and self-determinism" (Cox, 1986, p. 49). Cognitive appraisal involves the client's perception of the health care experience, including the relationship with the health care professional, which thereby influences the client's choice of health behavior (Cox, 1986). Affective response is the emotional arousal that results from client experience with health care and ultimately influences client health behavior (Cox, 1986).

Elements of Client-Professional Interaction

According to Cox (1982), there are four aspects of the elements of client-professional interaction: affective support, health information, decisional control and professional/technical competencies of the professional. Affective support is the response by the professional to the emotional arousal of the client. Health information is knowledge that is disseminated to the client based upon the client's need to manage health care threats or problems. "Decisional control refers to the individual's expectations of having the power to participate in making [health care] decisions" (Cox, 1986, p. 52). Professional/technical competencies will "vary according to the client's

health state…[and] the need for technical intervention" (Cox, 1986, p. 53) from professionals. The four elements of client-professional interaction along with three of the elements of client singularity (intrinsic motivation, cognitive appraisal, affective response) occur within a nonrecursive block within the model. "The model is nonrecursive in that it demonstrates a multidirectional causal flow with feedback mechanisms that suggest the mutual influence of one set of elements on another" (Cox, 1986, p. 47).

Elements of Health Outcome

Five outcomes are conceptualized within the IMCHB. They are: utilization of health care services, clinical health status indicators, severity of health care problem, adherence to the recommended care regimen, and satisfaction with care. These elements are the outcomes and manifestations of health behavior that result from the interaction of the singularity and interaction elements. In this study, utilization of health care services specifically involves the client's use of preventive health screenings, which demonstrates positive health behavior. This is an appropriate operationalization of this variable given that Cox (1982) defines positive health behavior within this model as "those conditions that are considered to maintain or promote the health state of the client" (p. 53).

Summary

Constructs from Cox's IMCHB provided the framework for the development of the Theory of Preventive Health Screening among community-dwelling African American older adults. Cox makes explicit the role of the healthcare professional in

impacting the client's health behavior. Therefore, this research study is in accord with Cox's IMCHB.

Propositions in the Theory of Level of Participation in Preventive Health Screening among Community-dwelling African American Older Adults

1. If the African American older adult feels that the healthcare provider provides affective support to the African American older adult's health concerns,
2. And if the healthcare provider demonstrates professional/technical competency,
3. Then, the African American older adult with satisfying and effective client/professional interaction is more likely than those persons without satisfying and effective client/professional interaction to engage in recommended preventive health screenings.

In summary, if older African American adults have effective and satisfying client/professional interaction, then older African Americans will be more likely to participate in yearly preventive health screening services.

Theoretical Definitions

The following theoretical definitions were derived from Cox's (1982) IMCHB and will be used for this research study that tests the Theory of Level of Participation in Preventive Health Screening by community-dwelling African American older adults. Additional information about operationalizing the variables appears in Chapter 3.

Client singularity is defined as those elements unique to the individual and influences their use of health services. The elements of client singularity are background

variables, intrinsic motivation, cognitive appraisal, and affective response. These characteristics are important for the healthcare provider to assess in their interaction with the client (Cox, 1982).

Background variables are those components that can be synergistic in producing a health behavior. The four background variables are: (1) demographic characteristics, (2) social influences, (3) previous health care experiences, and (4) environmental resources. These variables are influenced by internal and external influences (Cox, 1982).

Demographic characteristics are those characteristics of the individual that are stable and cannot be modified (Cox, 1982). For this study, demographic variables are age and sex.

Social influence is the influence of the individual's social group (Cox, 1982). In this study social influence is defined as marital status and high school education attainment (high school or less than high school) of the African American older adult.

Environmental resources are the individual's personal financial resources (Cox, 1982). In this study, environmental resources are poverty level and whether or not individuals have private or public insurance coverage.

Cognitive appraisal is one of the elements of client singularity that is dynamic in contrast to the static nature of the background variables. Cognitive appraisal is the individual's assessment of health state (Cox, 1982). In this study, cognitive appraisal is the African American older adult's perception of his/her general physical and mental health status.

Client-professional interaction is the "continuous reciprocal interaction between aspects of the client's singularity, the interaction, and the health outcome" (Cox, 1982, p. 51). The four elements of client-professional interaction are: (1) affective support, (2) health information, (3) decisional control, and (4) professional/technical competencies. In this study, client-professional interaction is the summed total number that identifies the client's satisfaction with client-professional interaction.

Affective support is the perceived emotional and interpersonal support given by the professional to the client (Cox, 1982). In this study, affective support is assessed by responses to survey questions about difficulty receiving an appointment with the provider, difficulty contacting the provider by telephone, and length of time the client has to wait before being seen by the provider. As shown in previous studies, these issues are part of the emotional climate of support created by the provider that demonstrates a caring or non-caring attitude on the part of the provider (Cole, Mackey, & Lindenberg, 2001; Plaas, 2002). This perception is particularly cogent for this elderly cohort, who may recall the tradition of the "general practitioner" or "family doctor" who made "housecalls".

Professional/technical competencies are those competencies or abilities of the professional to provide the care needed to the client (Cox, 1982). In this study, professional/technical competencies are evaluated by the African American older adult's satisfaction with the quality of care received from the usual provider.

Utilization of health care services is one of five possible health outcomes. The other four health outcomes are: (1) clinical health status indicators, (2) severity of health care problem, (3) adherence to recommended care regimen, and (4) satisfaction with care.

In this study, utilization of health care services is the level at which African American older adults engage in preventive health screenings (blood pressure check, cholesterol check, complete physical, flu shot, prostate exam, and mammogram).

Research Questions

Specifically, the following research questions were addressed:

1. What are the relationships among background variables and level of participation in preventive health screenings among African American older adults?
2. What are the relationships among cognitive appraisal and level of participation in preventive health screenings among African American older adults?
3. What are the relationships among client-professional interaction and level of participation in preventive health screenings among African American older adults?
4. What are the relationships among background variables, cognitive appraisal, client-professional interaction and level of participation in preventive health screenings among African American older adults?

Subsidiary Question

Previous research studies have identified significant differences between the health behaviors, including preventive health screening, of African American older adult men and women. Therefore a subsidiary question is: Are there gender differences in

Summary

In summary, the impetus for this study is the need to examine a rapidly growing group of individuals who have suffered from health disparities and exhibited the need for culturally sensitive and competent care. Effective and satisfying interactions with health care providers could result in decrease in health disparity and increased use of health services for preventive care. Cox's IMCHB provides a framework in which to examine, explain, and understand the relationship of the concepts of concern within nursing and within this proposed research study. The elements within the IMCHB were discussed and the elements selected for this research study were presented (See Table 1). This research study will test a theory of level of participation in preventive health screening among African American older adults and the influence of client/professional interaction on level of participation in preventive health screenings.

Delimitations and Limitations

The sample in this study will be delimited to a convenience sample of non-institutionalized African American men and women 65 years old and older and who participated in the Medical Expenditure Panel Survey (MEPS) of 1996 and reside in the United States. Therefore, a limitation of this study is that the specificity of the sample will decrease the generalizability to other African American older adults who are living in institutions. Another limitation is that the sample will be limited to one segment of the population, African American older adults. While this admittedly is a limitation, it is also strength, in that these older adults have been woefully absent from previous research studies involving older adults. A third limitation is that the operationalization of the

studies involving older adults. A third limitation is that the operationalization of the elements of Cox's model is limited by the choices made by the original research team when crafting the survey items.

Significance

This study is significant in a number of ways. The elimination of health disparity and the identification of barriers to health service utilization among African American older adults is a priority as evidenced by the goals and objectives of *Healthy People 2010* (Phillips, 2000). In spite of these gallant efforts, morbidity and mortality rates for African American older men and women continue to rise (Bolton, Bennett, Richards, Gary, & et al, 2001; Phillips, 2000). Yet, little research has been directed toward the interpersonal nature of the relationship of the African American older adult and the healthcare provider (Kaakinen, Shapiro, & Gayle, 2001).

Although many studies have addressed physician-patient interaction, few if any, have examined the relationship between level of participation in preventive screenings. Previous studies have primarily focused on demographic and functional characteristics of elders in relationship to health service use, rather than the interaction between the client and the healthcare provider. This study will address one of the priority areas, "investigating social/behavioral approaches to reducing adverse health and health care indices in the minority populations" (Centers for Disease Control and Prevention, p.20), identified for research targeting African American older adults.

Previous researchers have examined the phenomenon of health service utilization from the perspective that the major responsibility rests upon the client's

individual needs and motivations (Cox, 1982). This view lacks a holistic focus. It also relieves the provider of the responsibility inherent in the client-professional relationship. On the other hand, Cox's framework provides a holistic nursing perspective that examines the client elements, client-professional elements, and ultimate client health outcome at various stages of the process of nursing. More importantly, this study will contribute to the nursing literature and to nursing practice to increase our understanding of level of participation in preventive screenings among community-dwelling African American older adults. Further, this study will encourage further investigation that may lead to practical interventions that positively increase preventive screenings in African American older adults. Finally, this study forms a basis for future studies in a program of research that targets barriers associated with maintenance of health in African American community- dwelling older adults.

CHAPTER 2

Review of Literature

Introduction

The purpose of this study was to test a middle range theory of level of participation in preventive health screenings by community-dwelling African American older men and women. Cox's Interaction Model of Client Health Behavior (IMCHB) was selected as a conceptual guide; therefore, a review of the pertinent literature highlighting the theoretical and research underpinnings of the study is presented. The first section of this chapter presents Cox's IMCHB and provides an examination of the state-of-the-science using this model. The second section establishes the argument for the research study through a review of literature for each theoretical concept. In summary, this chapter furnishes a review of the literature and provides an understanding of the research study of the relationship of client/professional interaction and health service utilization among African American community-dwelling older adults.

Cox's Interaction Model of Client Health Behavior

Cox's Interaction Model of Client Health Behavior is an excellent choice for examination of the relationship of effective and satisfying client/professional interaction on African American health service use. The purpose of Cox's IMCHB is to "identify and suggest explanatory relationships between client singularity, the client-provider relationship, and subsequent client health care behavior" (Cox, 1982, p. 46). Essentially, Cox's model provides the building blocks, in the form of indicators, for knowledge building in nursing.

This model is derived from three well-known health belief models: (1) the Health Belief Model by Rosenstock, (2) the Suchman Model, and (3) Anderson and Newman's Model, as well as several years of clinical practice and nursing education coupled with a desire to understand the "process by which the singular position of each client on …variables is translated into health care behavior" (Cox, 1982, p. 46). Cox (1982) builds upon these models by making the relationship between client-professional interaction and client health behavior more explicit. The IMCHB recognizes the complex interrelationships among the variables that are specific to the client, examines these simultaneously and provides a more comprehensive picture of how these variables interact cumulatively and in relationship with client-professional interaction in explaining health outcome. When compared with other theories of health behavior, Cox's model furnishes a holistic worldview and "allows for more definitive predictions about health care behavior" (Cox, 1982, p. 46).

The State of Cox Science

Conceptual models or frameworks are developed to "articulate a body of distinctive knowledge for the whole of the discipline of nursing" (Fawcett, 1995, p. 27-28). The credibility of a framework is determined by its ability to develop theory, guide research, educational curricula, administrative systems, and clinical practice. Cox's IMCHB has guided several research projects and dissertations, tool development, and clinical practice.

Cox's IMCHB has been used to direct research studies involving many adult populations including urban and rural populations, older adults, child-bearing women, military personnel, schizophrenic patients, international patients and diabetics (Abel,

Hilton, & Miller, 1996; Cox, 1986; Doughtery, Dwyer, Pendergast, & Tomlinson, et al, 1998; Marion & Cox, 1996; Mefford & Thomas, 1997; Troumbley & Lenz, 1992; Solombela, 1994; Wallace & Hirst, 1996; Xaba & Dewar, 1991). Pediatric and adolescent health have also been addressed (Barnes-Boyd, 1995; Farrand & Cox, 1993; Lock & Vincent, 1995; Robinson, 1998). Several studies have been conducted with African American participants (Wallace, Fields, Witucki, Boland, et al, 1999; Wallace, Fox, & Napier, 1996; Wallace, Molavi, Hemphill, & Fields, 1999; Witucki & Wallace, 1998). One earlier dissertation by Appleyard (1989), examined demographic variables, preferences toward decisional control, compliance behavior and client satisfaction in a sample of clients seen by nurse practitioners and physicians. Decisional control was measured by transcript analysis of taped encounters between providers and clients. Compliance behavior and satisfaction with care data were collected via telephone questionnaire. However, the hypothesized relationships among client singularity variables and the health outcome of client satisfaction were not confirmed.

A more recent study, conducted by Bear and Bowers (1998), examined client satisfaction in a nurse practitioner managed clinic. The Client Satisfaction Tool (CST), based upon Cox's IMCHB, was tested for validity and reliability. A convenience sample of 38 clients completed the tool with responses indicating client satisfaction. Reliability was established with a Cronbach alpha of 0.956 and a stability rating of $r = 0.974$. Construct validity was accomplished by correlating scores on the CST with measures of perceived health changes and showed both convergent ($r = 0.599$, $P < 0.01$) and divergent ($r = 0.194$, $P < 0.10$) validity. While the statistics confirm that this is a sound measure of

the construct client satisfaction, many more clients need to be accessed and other venues that may contain a mixed provider base such as physicians and practitioners within one practice. A third study involving nurse practitioner practice used the framework to guide practice and evaluate all aspects of care in a nurse-managed senior health clinic (Bear, Burnell, & Covelli, 1997). This study was a preliminary report and did not discuss the outcomes associated with implementation of the IMCHB within the clinic.

Research studies have added to the knowledge development in nursing and have provided empirical evidence for the utility of the framework and model for nursing practice. Two years after Cox's IMCHB was published; she empirically tested the model (Cox & Roghmann, 1984). Step-wise multiple regressions explained 58% of the variance in women's decisions to request an amniocentesis and participants were correctly identified 87% in a discriminant analysis. Twenty-two of the 35 hypothesized causal paths were significant at the .05 level and five paths were marginally significant at .10 level. Subsequent studies have also shown support for the model (Haq, 1988; Troumbley & Lenz, 1992).

The University of Tennessee College of Nursing Gerontological Group has framed several studies using the Cox IMCHB. An existing dataset obtained from a Regional Area Agency on Aging in South Carolina was used to obtain the sample for many of the group's research activities. Three members of the group, Wallace, Fox, & Napier (1996), conducted a secondary analysis that examined the impact of demographic, social, environmental and health indicators on utilization of community-based services among African American older adults. The services most frequently used were case management, congregate meal, outreach, and home-delivered meals. "Significant

predictors of...higher number of services used...were older age, residing in rural area, experiencing cancer, and neurological disorder" (p. 300). However, even with chronic conditions requiring close monitoring, such as diabetes, African American older adults were significantly less likely to use community-based services (Witucki & Wallace, 1998; Wallace & Hirst, 1996).

Another study conducted by the Gerontological Research Group, using the same data set, examined use of home and community-based services by Black and White female older adults. Both Black and White women who were frail, living alone, with severe chronic illness, cancer or neurological impairment, were more likely to use formal health services (Wallace, Fields, Witucki, Boland, & Tuck, 1999). As noted previously, many of the studies conducted by the Gerontological Research Group have used the same data set. Data had been collected from individuals within an aging network, Area Agency on Aging in South Carolina that included 929 African American men and women. Research questions examined with this sample have focused on health indicators and their relationship to community-based service use. A natural extension to the Gerontological Research Group's research activities would be to develop middle range theory regarding the relationship of client-professional interaction and the utilization of preventive care. This research study tested the middle-range theory of level of participation in preventive health screenings among African American older adults and examined the relationship between client-professional interaction and level of participation in preventive health screening behavior.

Elements of Client Singularity

Background variables

According to Cox (1982), background variables are those variables specific to the client that are relatively static. These variables include demographic characteristics, social influence, previous health care experience and environmental resources. In the following paragraphs, available literature pertaining to each variable will be reviewed.

Demographic characteristics

Age. As the older adult population increases, questions regarding their use of health care services loom. Older age has been found to be a significant barrier to preventive service use, such as prostate screening (Boyd, Weinrich, Weinrich, & Norton, 2001). In a study examining community-based services among the young old (65-74), middle old (75-84), and old old (85 and older), the young old had the highest average number of services used (M=1.5, SD=2.4) and the middle old had the lowest number of services used (M=1.05, SD=1.4) (Wallace & Hirst, 1996).

Of note is the phenomenon of "racial crossover in mortality". This term describes the fact that for both African American men and women who achieve 70+ years of age, the mortality rate decreases below that of white elders 70+. Explanations include poor reporting of age by these older adults and/or better than anticipated health status (AoA, 2001; Zopf, 1986). Examination of this group of older adults will add to the growing literature describing the health service use among this segment of the population. The present research study includes individuals 65-90 years of age in the examination of preventive health service use.

Sex. Older women outnumber older men. In 1995, older women numbered 19.8 million in contrast to older men who numbered 13.7 million. Based on previous studies,

gender has a tremendous influence on utilization. Older women are higher consumers of health services than are older men (The National Women's Health Information, 1999). Research indicates that older African American women practice secondary prevention behaviors, such as annual blood pressure evaluation (Duelberg, 1992; Martin, & Panicucci, 1996). On the other hand, there is a dearth of research examining the preventive health service use of older African American males (Giger & Davidhizar, 1997). What is known about the preventive health screening among older African American males is primarily concerning their lack of prostate screening (Boyd, Weinrich, Weinrich & Norton, 2001). However, gender, as a significant predictor, has rarely been examined in studies of service utilization among African American older adults, despite the fact that older men experience different health conditions than older women.

Consistent with the population, more women than men are included in this research study. Women have consistently been reported to visit a health care provider more than men. Therefore, it is anticipated that the women in this study will be more likely to engage in health preventive services than the men. Findings from this study will further illuminate our understanding regarding health preventive service use for older African American women and narrow the gap in our understanding of health preventive service use by older African American men.

Social influences

Partner status/Marital status. African American older adults are more likely than White older adults to be unpartnered (often widowed) and to live alone (Federal Interagency Forum on Aging Related Statistics, 2001). Generally speaking, older men

are more likely to be married, live with a spouse or other family member, in comparison to older women (AoA, 1999). However, African American older men are more likely to be divorced, separated or widowed compared to White older men (AoA, 1999). Forty-eight percent of African American older women 65 to 74 years of age are widowed compared to 19% of African American older men (The National Women's Health Information Center, 1999).

Wallace, Molavi, Hemphill, & Fields (1999) in their study examining the relationship between widowhood and living arrangement with function and health service use among older African American men and women, found that 47% of women in contrast to 33% of men were widowed, but found no clinically significant differences in service use between those widowed and those not widowed. However, community services and hospital services were the health services examined; there was no examination of preventive health services or client-professional interaction.

Schone & Weinick (1998) investigated the relationships between health behaviors, marital status and gender in a sample of 4443 elderly men and women obtained from the 1987 National Medical Expenditure Survey, the predecessor of the Medical Expenditure Survey (MEPS). There were 1800 total men, 275 widowed and 1525 married. Two thousand six hundred forty-three total women were included with 1445 widows and 1198 married female older adults. Of the total sample, seven percent were African American married men. Twelve percent were widowed African American men. Six percent of the African American women were married compared to nine percent that were widowed. Using logistic regression models, the researchers found that marriage had a positive impact on health behaviors for the Caucasian older adults. The

effects tended to be larger for older men than for older women. Unfortunately, marital status was not a significant predictor of health behavior for the African American older adults.

In contrast to the previously mentioned studies, marital status was a significant predictor for African American men who participated in prostate screening (Boyd, Weinrich, Weinrich, & Norton, 2001). This research study included marital status dichotomized as married or not married.

Education. Despite the overall increase in educational attainment by U.S. older adults, African American older adults still lag behind the majority white population older adults. Forty-four percent of African American older adults have a high school diploma compared to 72% of the white older adult population (AoA, 2001). Harris (1998) reports that 3.5% of African American older adults have no formal education. Of these without formal education, the majority are women who may have been forced to work instead of attending school (Rodgers-Rose, 1980). Both male and female African American older adults were educated during the time of racially segregated school systems with unequal educational opportunity.

In a recent study of Medicare beneficiaries, the least educated individuals had the highest burden of illness (Bierman, Lawrence, Haffer, & Clancy, 2001). Level of education also appears to be a factor in use of preventive services. Kantha & Lewko (2001) found, in their study examining screening mammography practices among the elderly, that women greater than 65 years who had never had a mammogram had lower education than women who had had mammograms. This echoes Copeland & Scholle's

(2000) finding that, "lower income, poorly educated women have fewer options and feel less able to manage the health care system than highly educated and higher income women"(p.52). Number of years of education was examined in this study. Based on previous research, it was expected that participants without high school education would be less likely than those with high school education to participate in preventive health screenings.

Environmental resources

Poverty status. Inadequate education is associated with low wages, unskilled jobs, and high incidence of unemployment. Unemployment results in poverty and poverty completes the circle that leads to lack of or inadequate health insurance. Poverty status has been identified as one of three variables that may have a "profound effect" on health service utilization (Giger & Davidhizar, 1999). One recent study showed that Blacks and Hispanics reported significantly less access to primary care than whites because of finances; Blacks also reported significantly less continuity of care than whites (Taira, Safran, Seto, & Rogers, 2001). In 1998, divorced African American women, 65 to 74, had the highest poverty rate of all subgroups at 47% (AoA, 2001). Social Security was meant to be a supplement to an older adult's pension and saving incomes. However, due to employment disparity, many African American older adults were not employed in jobs with retirement benefits. Limited educational opportunities also may have put many at risk for long periods of unemployment making it difficult to meet the "quarters" needed for eligibility to even receive Social Security benefits. In 1998 Social Security benefits were responsible for two-fifths of older adults' income.

Choi (1997) analyzed public-use data tapes of the Current Population Survey from 1971, 1981, and 1990 to examine racial differences in retirement income. Findings revealed that the disparity between African Americans and Whites became even wider between 1970 and 1990. Consistent with other data sources, Choi's findings also confirmed that Social Security was the most important income source for African American older adults. In fact, without Social Security, poverty for this group would have increased by 48.5%. Such comparative analysis highlights the continuing economic disparity that exists between the races. However, what would be even more illuminating would be examination of the differences in poverty status between African American older adult men and women. In this research study, poverty status was considered as an indicator of environmental resource.

Wallace, Fields, Witucki, Boland et al (1999) in their comparative study examining use of community-based services by African American (N=678) and white female (N=1138) older adults, found that African American older women had poorer economic status, higher incidences of most health conditions and greater health need than white older females, but used fewer formal services than White women. These findings are especially disturbing because this sample consisted of older adults receiving services from an Area Agency on Aging. As such, these older adults were already in the Aging Network. This finding is especially relevant given that those not involved in the Aging Network might be more at risk, be more vulnerable, be in greater need of formal services, and have greater economic need. Of note is the lack of identification of preventive health

services in their study. This research study included examination of both older adult African American men and women and their use of preventive health services.

Insurance status. Health insurance is an important indicator of access to care. Income is correlated with insurance coverage. In line with a limited income, African American older adults are more likely to depend upon Medicare and Medicaid public insurance than White elders, who are more likely to have private insurance in addition to Medicare (Eberhardt, Ingram, Makuc, et al., 2001; Federal Interagency Forum on Aging Related Statistics, 2001). Bazargan, Bazargan and Baker (1998) examined emergency department (ER) use, hospital admission and physician visits in a large cross sectional sample of low-income older African Americans. They found that individuals with a high external locus of control, poor health, cardiac and vision impairment, as well as those needing assistance in instrumental activities of daily living (IADL), were more likely to be high end users of the ER. Conversely, persons with a high internal locus of control, private insurance, and high perception of access to a physician and other services were least likely to use the ER for non-emergent care. Higher internal locus of control was also associated with lower number of hospital admissions. Having private insurance or a Medicaid card was associated with higher number of hospitalizations. Greater number of physician visits was associated with male gender, higher level of education, private insurance, low locus of control, high IADL support, having a Medicaid card and residing at the same residence for five or more years. Initially, increased use may seem troublesome, but what is missing in examination of the phenomenon, within this sample, is an indication of health status. Increased incidence of chronic illness, a likely occurrence with this population, might require increased visits to the primary provider as

well as need for hospitalization due to exacerbations in illness. The present study included a measure of perceived physical and mental health status in addition to level of poverty status. Those participants with public only insurance may be less likely to participate in preventive health screenings because research has indicated that providers who treat older adults with Medicare as the only payor source do not always provide information regarding preventive health screenings (Schneider, Cleary, Zaslavsky, & Epstein, 2001).

Other Elements of Client Singularity

The other three elements of client singularity that Cox (1982) describes are more dynamic than the background variables and are a reflection of the client's "personal response" to their internal emotional state and are influenced by the client-professional interaction, as modeled by the non-recursive mechanism in the IMCHB. The three elements are cognitive appraisal, intrinsic motivation and affective response.

Cognitive Appraisal

Perceived health status and perceived mental health status

Overwhelmingly, regardless of health status, African American older adults report their health as poor (Coward, Peek, & Henretta 1997; Harris, 1998; Kim, Bramlett, Wright, & Poon, 1998; Neese & Abraham, 1997). Explanations for this phenomenon include different meanings of health and/or pessimism due to previous health care encounters as well as past and continuing assaults of prejudice and racism. The question, "How would you rate your overall health?" is a self-assessed measure of health status. It is a subjective cognitive appraisal of health status. It has been used in a number of

studies and most recently used in the Center for Disease Control and Prevention (CDC) health related quality of life definition and proven to be a valid and reliable measure of self-perceived health in older adults (Ferraro, 1980; Idler & Kasl, 1991; Musil, Haug, & Warner, 1998) and more specifically, in African American older adults (Fitzpatrick & Tran, 1997; Kim, Bramlett, Wright, & Poon, 1998; Martin & Panicucci, 1996; Wilson-Ford, 1992). Despite its inclusion in most studies, the findings are too easily explained away with, "this is a common finding" without serious attention given to the relationship it must have to use of services by this already vulnerable group of older adults. This research study examined physical and mental health perception and their relationship to preventive health screenings. In harmony with the research literature, those with lower self-perceived physical and mental health may participate in fewer preventive health screenings than those with higher perceived physical and mental health.

Elements of Client-Professional Interaction

In Cox's (1982) IMCHB, client-professional interaction is the emotional and interpersonal support provided either directly or indirectly to the client in an effort to support the client's singularity and facilitate quality health outcomes.

Affective Support

It is through communication or the interaction with the healthcare professional that the client forms a connection or relationship with the healthcare professional. However, prior to direct contact with the health care provider, clients must often navigate through a bureaucratic system involving confusing computer managed phone systems that make it difficult to contact the provider, which then results in difficulty obtaining an appointment and if an appointment is obtained, endure uncomfortable long waits to see

the health care provider (Cole, et al, 2001; Plaas, 2002; Tucker, & Davison, 2000). As a result of this impersonal treatment, clients often delay or avoid health care encounters resulting in decreased use of services, all before having a face-to-face interaction with the health care provider. Thus, the indirect creation of a climate of caring may be as important as the direct conveyance of care and support originally framed by Cox (1982).

When their health care provider's office or clinic environments are perceived as uncaring, clients often feel vulnerable, afraid, angry, and reduced to animals. Clients reported feeling like "cattle" in Plaas's (2002) phenomenological study of experiences in the outpatient department. This has even greater implications with a population such as African American older adults, who may have experienced decades of dehumanized interactions as a result of pervasive racism. It is no wonder that African American older adults have historically had low levels of participation in preventive health screenings. This study examined the relationship of affective support to preventive health screenings. It was expected that clients who experience high levels of affective support would also have high levels of preventive health screening.

Professional/technical competencies

Satisfaction is an essential element in clients' decision to participate in preventive health screening. Client satisfaction is an evaluation of the health care service that is provided. Women's assessments of health care services are especially critical to their utilization of health services (Issacs, 1997). Yet conflicting reports remain concerning whether women versus men are more satisfied with health care services (Hall & Dornan, 1988; Weiss, 1988). There are also conflicting reports in regard to the influence of

satisfaction and preventive health screenings among African Americans (Lillie-Blanton, Bowie, & Ro, 1996; Kelley, Perloff, Morris, & Liu, 1992). This study examined satisfaction as a predictor of preventive health screening among African American older adult men and women. Because women have more encounters with health care providers, it is theorized that client satisfaction may have more of a relationship with preventive health screenings for women than for men.

Elements of Health Outcome

Utilization of health care services

Several studies have focused on health service utilization by African American older adults in emergency departments (Bazargan et al, 1998), primary care services (Blendon, Aiken, Freeman, & Corey, 1989), informal services (Burton, Kasper, Shore, Cagney & et al, 1995; Johnson & Barer, 1990; Nelson, 1993), home care (Chadiha, Proctor, Morrow-Howell, Darkwa, & Dore, 1995) diagnostic procedures (Escarce, Epstein, Collins & Schwartz, 1993), long-term care (Mui & Burnette, 1994), and hospitalization (Wallace, 1991). Consistently, these studies reveal that African American older adults use fewer services than white older adults.

For example, hypertension is a major risk factor for cardiovascular morbidity and mortality in older adults (Vokonas, Kannel, & Cupples, 1996). A reliable and inexpensive means of detection of this silent killer is assessment of blood pressure. The JNC-VI recommends yearly screening of blood pressure (The Sixth Report, 1997). Yet, scores of African American older adults fall victim to cardiovascular events and cerebral vascular accidents resulting in death and disability. Often, these untoward health occurrences are the consequence of undetected hypertension. Perhaps, African American

older adults as a group do not have relationships with their health care providers that encourage them to engage in preventive health services such as annual blood pressure screening. However, if older adults participated in annual blood pressure screening, morbidity and mortality would be greatly curtailed (Wagner, 1998). Therefore, in this study, it is posited that African American older adults with effective and satisfying client-professional interaction are more likely to have a higher number of preventive health screenings, such as annual blood pressure check.

Another screening examination that influences cardiovascular health is cholesterol screening. One of the leading health initiatives for *Healthy People 2010* is to increase the proportion of adults who have their cholesterol checked. This would be especially beneficial in older adults over the age of 65, because research studies have shown that reduction of high cholesterol results in a reduction in mortality and risk of coronary events (Deedwania, 2000; Mormando, 2000). However, researchers who examined electronic medical records from 19 primary clinics found that primary care physicians are least likely to follow the National Cholesterol Education Program (NCEP) regarding secondary prevention for certain groups of patients, such as females, African Americans, and patients older than 79 years of age (Maviglia, Teich, Fiskio, & Bates, 2001). This research study will examine whether African American older adults participate in annual cholesterol screening. Clients experiencing effective and satisfying client-professional interaction are predicted to be more likely to participate in preventive health screenings such as yearly cholesterol screening.

Yearly physical examination is recommended for all adults. However, African Americans' use of healthcare tends to be crisis-oriented and episodic rather than preemptive and preventive (Wagner, 1998). As a consequence, African Americans, especially African American older adults, often suffer from preventable illnesses. For decades, African American older adults have had the lowest number of physician visits, resulting in under-utilization of health services (Reed, 1990). If these older adults participated in regular physical examinations, then morbidity and mortality among African American older adults would be greatly reduced. Perhaps one explanation of failure to undergo yearly physical examination is unsatisfying client-professional interaction.

Infectious disease continues to be one of the leading causes of death in the elderly. A primary weapon in the arsenal of defense against deadly infections is the influenza vaccine. The CDC (2000) recommends that all individuals over the age of 50 years of age be immunized annually. If these recommendations were followed, 70% of hospitalizations and 80% of deaths from influenza would be prevented in community-dwelling older adults. Yet in an analysis of the 1996 Medicare Current Beneficiary Survey (Schneider, et al, 2001), only 46% of African American older adults (compared to 68% of White older adults) reported that they received flu shots. Twenty-one percent of those older adults who did not receive flu shots stated that they did not know the flu shot was needed. This is clearly a failure of client-professional interaction.

The incidence of prostate cancer is twice as high in African American men. African American older men are also twice as likely to die from prostate cancer than their White counterparts (American Cancer Society, 1999). In spite of the alarming incidence,

African American older men have lower rates of screening behavior than White males. Previous studies involving older African American men expose many barriers to preventive screening, including distrust of providers (Jernigan, Trauth, Neal-Ferguson, & Cartier-Ulrich, 2001) and "a perceived lack of sensitivity and understanding by health care providers" (Plowden, & Miller, p. 17). So direct examination of the relationship of client-professional interaction to preventive health screening in African American older men would expand the database on African American male preventive health behaviors.

Breast cancer is the most common cancer in older women. The gold standard for primary detection of breast cancer is mammography (Duffy, Wood & Morris, 2001). Although Medicare provides for yearly screening by mammography, African American older women have lower rates of screening participation and are more likely to be diagnosed with advanced stages of disease (Health Care Financing Administration [HCFA], 2000). One explanation may be "dissatisfaction [with] a provider's approach to giving information...perceived as abrupt or uncaring" (Jernigan, Trauth, Neal-Ferguson, & Cartier-Ulrich, 2001, p. 29). Hence, poor client-professional interaction may influence level of participation in mammography among African American older women.

The majority of the research studies examined in this chapter have only discussed personal client characteristics (i.e., elements of client singularity) and their influence on service use. Few studies have examined the provider-client interaction influence on service use. This research study examined not only client singularity, but also more importantly, satisfaction with the client-professional interaction and its relationship to participation in preventive health screenings by African American older adults.

Chapter Summary

Many of the research studies discussed explained the variance in health service utilization patterns based on education, functional status, financial resources, gender, health, marital status, and type of formal services used. Other research studies focused on the barriers to health service utilization by African American elders, but primarily focused on client-centered barriers without discussion of the role of client-professional interaction. None of the studies have examined the relationship between healthcare provider interaction and preventive health screenings. This research study overcomes these limitations by using a multidimensional framework in which to examine the relationship of the healthcare provider-client interaction to the use of preventive health screenings by African American community-dwelling older adults.

This chapter presented the state of Cox science and literature supporting the theoretical links of the proposed study. This research study adds to the body of research emanating from Cox science. It included a rarely studied population, African American older adults, and will examine the relationship of client-professional interaction to the health outcome, preventive health screening, from a holistic viewpoint.

CHAPTER 3

Methodology

Introduction

The purpose of this study was to test the middle range theory of level of participation in preventive health screening by community dwelling African American older men and women. This study is unique in that a secondary analysis of a national data set, the 1996 Medical Expenditure Panel Survey-Household Component, was conducted to test a conceptual theory of preventive health screenings in a population not often examined, community-dwelling African American older adults. This chapter presents the theory-driven research questions, research design, description of the sample, sampling procedures, human subjects protection, study variables, operational definitions, data collection and measurement, and data analysis.

Research Questions

The research questions theoretically derived from Cox's (1982) Interaction Model of Client Health Behavior are:

1. What are the relationships among background variables and level of participation in preventive health screenings among African American older adults?
2. What are the relationships among cognitive appraisal and level of participation in health preventive screenings among African American older adults?

3. What are the relationships among client-professional and level of participation in health preventive screenings among African American older adults?
4. What are the relationships among background variables, cognitive appraisal, client-professional interaction and level of participation in preventive health screenings among African American older adults?

Subsidiary Question

Are there gender differences in level of participation in preventive health screenings among African American older adults?

Research Design

A descriptive correlational study design was selected to answer the research questions. The design is appropriate given that the Interaction Model of Client Health Behavior (IMCHB) proposes that there is a dynamic relationship among all three of the elements in the model. This design allowed the theoretically proposed relationships within the IMCHB to be examined in a nationally representative sample of community-dwelling African American older adults.

Sample/Sampling Procedure

The participants for this study were selected from the 1996 Medical Expenditure Panel Survey-Household Component (MEPS-HC). The MEPS is an excellent choice of data source because it is nationally representative and is a candidate for use in the National Health Care Quality Data Set (Hurtado, Swift, & Corrigan, 2001). MEPS is the third national probability survey conducted by the Agency for Healthcare Research and Quality (AHRQ) to provide nationally representative estimates of health care

expenditure, insurance coverage, payment sources, and service utilization. MEPS-HC is comprised of United States civilian non-institutionalized persons. Ten thousand five hundred ninety-seven families and 24,000 individuals from 195 different communities are contained in the 1996 MEPS-HC survey. Represented in the data were 2,737 older adults 65 years and older. There were 266 African American older adults 65 years and older (Agency for Healthcare Research and Quality [AHRQ], 2001).

MEPS is a "stratified and clustered random sample of households" (Selden, Banthin, & Cohen, 1999). The sampling frame for the MEPS HC was derived from respondents to the 1995 National Health Interview Survey (NHIS). NHIS uses a stratified multistage probability design that permits continuous sampling of 358 primary sampling units (PSUs). "The NHIS sample design has three stages of sample selection: an area sample of ...(PSUs); a sample of segments (single or groups of blocks or block equivalents) within sampled PSUs; and a sample of housing units within segments" (AHRQ, 2001, p. C-72). The overall response rate for the NHIS MEPS eligible households was 77.7%, while the overall person level response rate for the MEPS participants was 70.2% (AHRQ, 2001).

For this study, criteria for inclusion were: 1) African American or Black race, and 2) 65- years of age and older. A power analysis based on 23 variables, with a middle effect size (.20), a power of .81, and an alpha of .05 determined that at least a total of 220 men and women should be used (SPSS-SamplePower, 1999). A weighted sample of 266 African American older adults 65-years and older, with 99 males and 167 females was used in this study.

Human Subjects Protection

Human subjects protection was assured by obtaining approval from the University of Tennessee College of Nursing (CON) Institutional Review Board (IRB) using a Form A, which is the appropriate form for projects involving the use of existing data. This research project does not include children because this is primarily an adult issue. As adults, African American older adults are able to choose what, if any, health services they will use. Children, by nature of their dependent status, do not personally choose what, if any, health services they will use.

Approval from the AHRQ was not necessary because the MEPS database is in the public use domain. Use of the data constituted agreement not to attempt to identify any individual within the data set. A CD-ROM containing the MEPS HC data was obtained from the AHRQ and kept in a locked safety-deposit box located in the researcher's home. A dataset containing the research variables of interest was downloaded to the hard-drive of the researchers' laptop computer that required a password for use, known only by the researcher. The researcher, dissertation chairperson, a member of the dissertation committee, and a university statistician were the only persons with access to portions of the research dataset. Upon the completion of this research study, the research data set were archived in a secure file in the researcher's home for possible future use.

Variables/Operational Definitions

The theoretically derived variables were categorized according to the elements of the IMCHB. The independent variables were comprised of the elements of client singularity and client-professional interaction. The element of client singularity variables included the four background variables: 1) demographic characteristics, 2) social

influence, and 3) environmental resources and the personal response variable of cognitive appraisal. Elements of client-professional interaction variables were affective support and professional/technical competencies. Only one dependent variable, element of health outcome, was selected for this study, level of participation in preventive health care services. These variables, (See Table 3), were selected based on a review of the literature and their significance in identifying vulnerable groups of older adults targeted by national health objectives and priorities such as *Healthy People 2010*.

Demographic characteristics-Age and sex were selected as demographic variables.

Social influences-Years of education and marital status were selected as measures of social influence.

Environmental resources-Level of poverty status and insurance coverage (private, or public only) were selected as measures of environmental resources.

Cognitive appraisal-Perceived physical health and perceived mental health were selected as measures of cognitive appraisal.

Affective support-This variable was assessed by three questions: "How difficult to get appointment with usual source of care provider?", "With appointment, how long [un]til seen by usual source of care provider?", and "How difficult to contact usual source of care provider by phone?"

Professional/technical competencies-One question, "Satisfied with quality of care?" was selected as a measure of professional/technical competency.

Utilization of health care services-Six questions regarding level of participation in preventive screenings, "Time since blood pressure check?" "Time since cholesterol

check?" "Time since complete physical?" "Time since flu shot?" "Time since prostate exam?" and "Time since mammogram?" were selected to construct the outcome variable of utilization of preventive health care services.

Data Collection

Data collection for the 1996 MEPS occurred over a two and half year period and was conducted with a preliminary interview followed by six rounds of interviews via structured self-report or self-administered questionnaires, computer-assisted personal interviewing and face-to-face interviews. All of the instruments contained closed-ended or fixed-alternative questions. The main instrument collected demographics, health condition, health status, health service utilization, health care expenditures, prescription and over-the-counter medications, employment and health insurance information. In Round 2 all adults in the household were asked to complete a self-administered questionnaire with information regarding chronic conditions, health behaviors, and health attitudes. Other supplemental questionnaires included information regarding access to care, satisfaction with care, income, assets and functional ability (Cohen, Monheit, Beauregard, Lefkowitz, & et al, 1996).

In December 1995, respondents to the NHIS were mailed a letter and brochure describing the MEPS. Next, interviewers telephoned potential MEPS participants to confirm receipt of the letter, verify identity, and alert the householder to a second mailing containing a study diary, and a remuneration of $5. A follow-up telephone call was made to confirm the arrival of the second mailing, arrange for the first interview, and obtain consent. With each subsequent round, the participant was telephoned to arrange for the next interview. Confidentiality of all participants was maintained throughout the data

collection process. "MEPS data [were] collected under the authority of the Public Health Service Act. They [were] edited and published in accordance with the confidentiality provision of this act and the Privacy Act" (AHRQ, 2001, p. B-4).

Measurement

The indicators were selected based on the conceptual-theoretical-empirical structure derived from Cox's IMCHB (see Table 1). These particular behaviors were selected based on the national health objectives for this country, *Healthy People 2010*, health and screening recommendations such as the National Cholesterol Education Program (NCEP), the Sixth Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC-VI), and geriatric assessment screening tools such as the Older Adults Resources and Services (OARS) Scale.

Demographic characteristics

The demographic characteristics (age and sex) examined in this study were frequently used as indicators in other gerontological research studies (Duffy, et al, 2001; Galanos, Strauss, & Pieper, 1994; Nelson, 1993; Phillips, Palmer, Wettig, & Fenwick, 2000; Rooks, 2001; Taira, et al, 2001; Wallace, et al 1999). In this study, age was chronological age and sex was coded as 1=male and 2=female.

Social influences

Number of years of education and marital status/partner status are construed as indicators of social influences in this research study. These variables are similar in operationalization to other gerontological studies (Bierman, Haffer, & Hwang, 2001;

Choi, 1999; Copeland, & Scholle, 2000; Cox, 1986; Harris, 1998; Schone, & Weinick, 1998). Education was recoded 1=<high school education and 2=>high school education. Marital status was recoded 1=married and 2=not married.

Environmental resources

Poverty category as a percentage of the poverty line and private or public insurance coverage were selected as indicators of environmental resources in this study. Other gerontological research studies have also includes these variables (Bierman, et al, 2001; Brady, & Nies, 1999; Schneider, et al, 2001; Williams, & Weissman, 2000). Poverty category was combined to less than 200% of poverty line as poverty and 200% or greater as not poverty and then recoded 1=poverty and 2=not poverty. Insurance coverage was recoded 1=any private and 2=public only.

Cognitive appraisal

In this research study, cognitive appraisal included perceptions of both general physical health and mental health. The answers for general health range from 1="excellent" to 5="poor". Mental health was recoded to 1=favorable and 2=unfavorable. Self-report of health is and has been an important measure of cognitive appraisal in gerontological research (Martin, & Panicucci, 1996; Musil, et al, 1998; Weinrich, Weinrich, Priest, Fodi, et al, 2001).

Client-professional interaction

Client-professional interaction in this study was composed of indicators of affective support and professional/technical competency. Affective support in this study was expanded to include the interpersonal environment created by the health care provider. This was appropriate given that researchers, especially those concerned with

addressing racial and ethnic disparity in healthcare, have also measured affective support in this way (Cole et al, 2001; Cooper & Roter, 2002; Plaas, 2002; Tucker, & Davison, 2000). Professional/technical competency in this study was indicated by clients' satisfaction with the quality of care. This indicator is often measured not only in gerontological research, but many health service utilization studies (Cole, et al, 2001; Dansky, & Miles, 1997; Donabedian, 1988; Greeneich, Long, & Miller, 1992; Mundinger, Kane, Lenz, Totten, et al, 2000; Rondeau, 1998; Rhee, & Dermyer, 1995; Zapka, Palmer, Hargraves, Nerenz, et al, 1995). Four items were summed for a total number recoded with the label of "profint" with a possible range of 0-4. The four items were: (1) "How difficult to get appointment (appt.) with usual source of care provider (USC)?", answers were recoded 1="not difficult" and 2="difficult" (2) "With appt., how long til seen by USC?", answers were recoded 1="1 hour or less" and 2="more than 1 hour" (3) "How difficult contact USC by phone?", answers were recoded 1="not difficult" and 2="difficult", and (4) "Satisfied with quality of care?", were recoded 1=" satisfied" and 2="not satisfied".

Utilization of health services

Level of participation in preventive health screenings was the indicator selected for measurement of utilization of health services. Six items were summed into a total number recoded as "healthck" with a possible range of 0-5 for men and 0-5 for women. All items were recoded 1= "in the past year" and 2="not in the past year". The six items were: "Time since blood pressure check", "Time since cholesterol check", "Time since complete physical", "Time since flu shot", "Time since prostate exam", and "Time since

mammogram". The last two items are gender-specific, prostate exam for men and mammogram for women.

Method of Analysis

This research study was a secondary analysis of an existing data set. Descriptive analysis was conducted to examine the independent and dependent variables. Question 1 was answered using multiple linear regression, regressing level of participation in preventive health screenings on background variables. In question 2, level of participation in preventive health screenings was regressed on cognitive appraisal variables. Multiple linear regression was also used in question 3 with level of participation in preventive health screenings regressed on the client-professional interaction variable. For question 4, multiple linear regression was used with level of participation in preventive health screenings regressed on the background variables, cognitive appraisal variables, and client-professional interaction variable. Prior to the regression procedures, the data was examined for evidence of multicollinearity. Independent samples t-test was used for the subsidiary question. Statistical analyses were conducted using SAS 8.2, and SUDAAN 8.0 for Windows®. SUDAAN was used because of its ability to appropriately and reliably compute standard errors of means, totals, and regression coefficients for population estimates in accordance with the complex sample survey design used in MEPS.

Chapter Summary

This chapter presented the Cox's Interaction Model of Client Health Behavior (IMCHB) as the theoretical rationale for testing the middle range theory of level of participation in preventive health screening among African American community-

dwelling older adults. This research study used a descriptive correlational research design with a sample of 266 men and women. The indicators in the study were operationalized based on the constructs within the model. The data set was obtained from a national representative sample of individuals who participated in the 1996 MEPS-HC data disk from AHRQ. Data analysis was conducted to identify the relationships of the variables within the IMCHB.

CHAPTER 4

Results

Introduction

The purpose of this research study was to test a middle-range theory of level of participation in preventive health screening among community-dwelling African American older adults. Cox's Interaction Model of Client Health Behavior (IMCHB) was selected as a conceptual guide and used in the formulation of the research questions. Data analysis was conducted using SAS 8.2 and SUDAAN 8.0 for Windows®. The statistical analyses included descriptive analysis, multiple linear regression of factors related to level of participation in preventive health screening, and a t-test for difference in level of participation in preventive health screening between men and women. In this chapter, the sample description is presented and the findings for each research question are discussed.

Descriptive Statistics for the Total Sample

Demographic Characteristics

Age and sex were the demographic characteristics selected for consideration in this research study. There were a total of 266 community-dwelling African American older adults, (N=99) men and (N=167) women (See Table 4). The participants ranged in age 65 to 90 years, with a mean age of 73.73 (SE=0.44).

Social Influences

Education and marital/partner status were measured as social influences in this study. Not surprisingly, the majority of the participants had less than a high school education (59.88%). Yet, those with greater than a high school education, (40.12%),

Table 4: Descriptive Statistics

Elements of Client Singularity		
		Total (n=266) 100%
Demographic characteristics		
Sex	Male	38.76
	Female	61.24
Social influences		
Education		
	<High school education	59.88
	≥ High school education	40.12
Partner/Marital Status		
	Partnered/Married	38.53
	Unpartnered/Unmarried	61.47
Environmental resources		
Poverty		
	Poverty	62.76
	Not poverty	37.24
Insurance coverage		
	Any private	39.88
	Public only	60.12
Cognitive appraisal		
Perceived health status		
	Excellent	11.47
	Very good	22.12
	Good	24.05
	Fair	28.28
	Poor	14.06
Perceived mental health status		
	Favorable	84.31
	Unfavorable	15.69

N=266

were more than the 1996 Census estimates of 35.1% for black adults 25 years and older, and estimates of 33.8% for all older adults 65+ (United States Census Bureau, 2000). Not surprisingly, the majority, 61.47% of the African American older adults in this sample were unpartnered or not married.

Environmental Resources

Poverty status and insurance coverage (private, public only) were indicators of environmental resources. A greater percentage of the older men and women in this study were found to be in poverty (See Table 4). Because participants are 65+ and Medicare eligible, almost all participants had some form of insurance coverage, private or public only (See Table 4). Only one participant reported no insurance coverage, so that participant was removed from all analysis.

Cognitive appraisal

Personal perceptions of physical and mental health were measures of cognitive appraisal in this research study. In contrast to previous gerontological research involving African American older adults, the majority of the participants in this research study perceived their health as "good to excellent". Only 42.34% of the older men and women in this study perceived their general health as "fair to poor" (See Table 4). An unexpectedly large percentage of participants, 84.31%, perceived their mental health as favorable.

Client-Professional Interaction

Four items, as listed in Chapter 3, from the dataset were combined and summed as a measure of client-professional interaction. The mean for the combined number for client-professional interaction was 3.12 (S.E.=0.08) from a possible range of 0-4.

Therefore, participants had a high level of satisfying and effective client-professional interaction.

Health Outcome

Health service utilization through level of participation in preventive health screenings (listed in Chapter 3) was the indicator of health outcome in this research study. Participants had a relatively high level of participation in preventive health screenings, (M=3.12, S.E.=0.15), from a possible range of 0-5.

Research Questions

The issue of multicollinearity was examined. Schroeder (1990) indicated that examination of the R2 value could provide information regarding the collinearity of the independent variables. Norusis (1996) indicated that a R2 of 1 would indicate complete relationship among the independent variables. Tolerance (1-R2) is a measure of variance in the independent variable that is independent from any of the other independent variables, and if equaled 0 would indicate collinearity. Therefore, this researcher examined the R2 value and computed the tolerance and found no multicollinearity.

The first research question addressed was: **What are the relationships among background variables and level of participation in preventive health screenings among African American older adults?** This model was not statistically significant; therefore, there was no relationship among any of the indicators with level of participation in preventive health screenings (healthck) by African American older adults (See Table 5).

Table 5: Predictors of Level of Participation in Preventive Health Screenings By Background Variables in African American Older Adults

Predictor	B	S.E.	t	p
Intercept	13.88	1.61	2.41	*0.0192
Sex	0.09	0.28	0.33	0.7464
Age	-0.01	0.02	-0.48	0.6308
Education	-0.02	0.28	-0.08	0.9376
Partner/Marital status	0.31	0.32	0.98	0.3321
Poverty status	0.04	0.29	0.15	0.8826
Insurance coverage	-0.05	0.24	-0.21	0.8329
R2=0.01				
F=83.01, df=(7)				
p=**0.0000				

N= 266 *p≤. 05 **p≤ .0001

The second research question, **What are the relationships among cognitive appraisal and level of participation in preventive health screenings among African American older adults?,** was analyzed in the same manner as in question 1. This model was significant for level of participation in preventive health screening (healthck). An inverse relationship was shown between level of participation in health screenings (healthck) and perception of excellent health (See Table 6). African American older adults in this study with perception of excellent health have lower level of participation in preventive health screenings (healthck). Therefore, one of the cognitive appraisal variables revealed a significant relationship with level of participation in preventive health screenings (healthck).

The third research question examined was, **What are the relationships among client-professional interaction and level of participation in preventive health screenings among African American older adults?** This model also showed a

Table 6: Predictors of Level of Participation in Preventive Health Screenings By Cognitive Appraisal Variables in African American Older Adults

Predictor	B	S.E.	t	p
Intercept	3.43	0.48	7.17	*0.0000
Excellent	-1.46	0.46	-3.20	**0.0023
Very good	-0.76	0.43	-1.78	0.0807
Good	-0.58	0.37	-1.56	0.1246
Fair	-0.31	0.37	-0.85	0.4011
Poor	0.00	0.00		
Perceived mental health	0.44	0.40	0.40	0.2737
R2=0.06				
F=110.82, df=(6)				
p=*0.0000				

N=266 *p≤ .001 **p≤ .01

NOTE: In SUDAAN, unless the variables are dichotomized, each level of the variable is treated as a separate variable; therefore, in this model there are 6 variables instead of 2.

significant relationship of the indicator with level of participation in preventive health screening. A positive relationship was shown between level of participation in preventive health screening (healthck) and client-professional interaction (See Table 7).

The fourth question, **What are the relationships among background variables, cognitive appraisal, client-professional interaction and level of participation in preventive health screenings among African American older adults?**, Consistent with the IMCHB, client-professional interaction contributed the most to the total variance in the dependent variable (See Table 8). When considered independently, cognitive appraisal had a direct relationship with level of participation in preventive health screenings (healthck). However, cognitive appraisal was unable to maintain its

Table 7: Predictors of Level of Participation in Preventive Health Screenings By Client-Professional Interaction Variable in African American Older Adults

Predictor	B	S.E.	t	p
Intercept	2.45	0.49	4.95	*0.0000
Client-professional interaction	0.36	0.14	2.55	**0.0137
R2=0.06				
F=423.99, df=(2)				
p=*0.0000				

N=266 *p≤ .0001 **p≤ .01

Table 8: Predictors of Level of Participation in Preventive Health Screenings By Background Variables, Cognitive Appraisal Variables, And Client-Professional Interaction Variable in African American Older Adults

Predictor	B	S.E.	t	p
Intercept	3.65	1.88	1.94	0.0578
Age	-0.02	0.02	-0.67	0.5068
Sex	0.14	0.23	0.62	0.5378
Education	-0.07	0.27	-0.27	0.7900
Partner/marital status	0.31	0.30	1.04	0.3051
Poverty	-0.21	0.24	-0.87	0.3863
Insurance coverage	0.03	0.22	0.12	0.9082
Perceived health				
Excellent	-0.48	0.45	-1.07	0.2904
Very good	-0.51	0.45	-1.15	0.2565
Good	0.02	0.31	0.06	0.9538
Fair	-0.114	0.35	-0.40	0.6928
Poor	0.00	0.00	------	------
Mental health	0.16	0.38	0.41	0.6815
Client-professional interaction	0.36	0.13	2.67	*0.0100
R2=0.11				
F=103.02, df=(13)				
p=**0.0000				

N=266 *p≤ .01 **p≤ .0001

relationship on healthck in the model containing all the independent variables.

The subsidiary question, **Are there gender differences in level of preventive health screenings among African American older adults?,** was analyzed by using the independent samples t-test. There was no statistically significant difference in healthck (participation in preventive health screenings) between older adult African American men and women (t=1.08, p=0.2841).

Summary of Results

The 266 African American older adult men and women in this study are similar demographically to the African American older adults in the 1996 census (Bennett, 1997). The sample consisted of more females than males and had variability in age. Consistent with what is known concerning this group of elders, the majority of participants were unmarried, impoverished and dependent upon public insurance coverage. Not consistent with previous knowledge of the population, participants had higher than national average levels of education, high self-perceptions of both general and mental health, high total number of satisfying and effective client-professional interactions, and high level of participation in preventive health screenings.

Multiple linear regression analysis revealed that background variables were not significantly related to level of participation in preventive health screenings. However, cognitive appraisal was significantly related to level of participation in preventive health screening. Multiple linear regression analysis also found that client-professional interaction was significantly related to level of participation in preventive health screenings.

CHAPTER 5

Discussion

Introduction

The purpose of this study was to test a middle-range theory of level of participation in preventive health screenings among community-dwelling African American older adults. This chapter will discuss the findings from chapter four in relation to the research questions which were framed within Cox's conceptual framework, the Interaction Model of Client Health Behavior (IMCHB), followed by conclusions, limitations, strengths, and implications for education, policy, practice, and research.

Discussion of the Results of the Research Questions

Research Question 1

The first question examined the relationship among background variables and level of participation in preventive health screenings. Results showed that there was no relationship among background variables and level of participation in preventive health screenings. This finding is consistent with the IMCHB in that background variables in elements of client singularity contribute to but are not necessarily directly responsible for health outcome (Cox & Roghmann, 1984).

As mentioned earlier, the participants in this research study are similar demographically to those individuals in the 1996 census. Education was the only dissimilar finding among these research participants. Perhaps the rigors of being

involved in a national survey may exclude those individuals who may be less educated and less knowledgeable regarding the purposes of research efforts.

Research Question 2

Question two examined the relationship among cognitive appraisal variables and level of participation in preventive health screenings. Surprisingly, results revealed an inverse relationship for participants with excellent health perception and level of participation in preventive health screenings. One explanation for this finding may be in the definition of health by African American older adults. Health for some African American older adults may mean activity (Fitzpatrick, & Tran, 1997; Kaufman, 1996), and for others, maintaining a role in the family (Wilson-Ford, 1992). Therefore, health and maintenance of health may not necessarily be associated with health promoting behaviors such as participation in preventive health screenings. So then, clients could have excellent health perception without participating in preventive health screenings. Unfortunately, there were no items measured in this study that allowed participants to share their personal definitions of health, therefore it is not known why these participants rated their health so positively.

Other factors that may provide an explanation for the findings include the use of complementary medicine and the hardiness of this cohort who may feel no need to see a health care provider if no clinical symptoms are present. Spector (2000), in her discussion of health and illness of American blacks, stated that, "a physician is not consulted routinely and is not generally regarded as the person to whom one goes for the prevention of disease" (p.218). Prevention practices that are utilized often consist of

complementary approaches derived from African, Native American and White traditions (Spector, 2000).

A well-known phenomenon in gerontological research is the "crossover phenomenon". African American older adults who live to be 70+ appear to have longer life expectancies than White older adults. Therefore, participants in this study may be members of the cohort of older adults who have "survived" the characteristic increased morbidity and mortality common among African Americans (Watson, 1990).

Research Question 3

Findings from the third research question support the basis for this research project. The third research question examined the relationship among client-professional interaction and level of participation in preventive health screenings. In support of the IMCHB, and the middle-range theory derived from it to guide this study, there was a positive relationship found between client-professional interaction and level of participation in preventive health screening.

One explanation for this finding may be that the participants as a cohort of older persons, may be more accepting of physician authority, or authority in general, and as a result may derive more satisfaction in interactions with their health care providers. This view is supported by research studies involving older adults that showed high levels of satisfaction with their health care providers and reported respect for physician authority (Breemhaar, Vissar, & Kleunen, 1990; Callahan, Bertakis, Azari, Robbins, et al, 2000; Greene, Adelman, Friedmann, & Charon, 1994; Haug, 1996; Hodes, Ory, & Pruzan, 1995).

Other possible explanations of this finding include possible lower expectations of the healthcare provider and unwillingness to criticize the healthcare provider. Participants may be resigned to less than satisfactory client-professional interaction. Schmittdiel, Grumbach, Selby, & Quesenberry (2000) found that patients who selected their own health care providers had higher expectations and higher satisfaction with care. However, selection of healthcare provider was not a variable in this study.

Caution must be used in linking satisfaction with quality care. For example, Callahan et al (2000) found that while older clients expressed satisfaction with their care, the primary care resident had failed to discuss any plan involving health promotion or preventive health with them. Further assessments of satisfying and effective client-professional interaction should include encouragement of preventive health screenings.

Research Question 4

The final question examined the relationship among, background variables, cognitive appraisal, and client-professional interaction and level of participation in preventive health screenings. Again, client-professional interaction was related to level of participation in preventive health screenings, even in combination with the other independent variables, thus showing the strength of the relationship of client-professional interaction and level of participation in preventive health screenings. This also illustrates the strength of the IMCHB in explaining the relationship of the effective and satisfying client-professional interaction to health behavior and health outcome.

Subsidiary Question

The subsidiary question in this research study examined the relationship of gender or sex to the level of participation in preventive health screenings. Surprising, but also

enlightening, was the finding that there was no difference in level of participation in preventive health screenings between men and women. One explanation may be the undisputed shared history of discrimination in regard to health care. African American men and women were equally denied not only equal access to health care, but were also denied a voice in policy decisions that affected their health. These older adults may have spent a great portion of their adult lives under the bonds of discriminatory health practices (Giger & Davidhizar, 1997, 1999). Perhaps this accounts for the finding that there is no difference in their level of participation in preventive health screenings.

Another plausible explanation is the "crossover phenomenon", mentioned earlier. The participants in this study may represent "hardy" men and women who may be more similar than different in their health and need for preventive health screenings. Perhaps the participants in this study had fewer chronic health conditions or had their medical conditions well managed. Unfortunately, health conditions were not measured in this study. The medical codes commonly assigned to identify medical conditions were collapsed in the MEPS data in an effort to maintain patient confidentiality. Therefore, this researcher decided not to use health conditions as a variable in this study.

Conclusions

Cox's Interaction Model of Client Health Behavior (IMCHB) has proven to be a useful framework for the examination of the relationship of client-professional interaction to level of preventive health screenings in community-dwelling African American older adults. The IMCHB offered support for the notion that client-professional interaction had a strong relationship with health behavior than client singularity. This research study also

provided validation for the configuration of the IMCHB, in that cognitive appraisal has a stronger relationship with the health outcome, but client-professional interaction was even stronger in relationship to level of participation in preventive health screenings.

The study finding that background variables were not significantly related to level of participation in preventive health screenings is important. This finding validates the need for increased attention to client-professional interaction among health care providers. Many research studies continue to focus on background variables in their quest to understand client participation in health service utilization. This limited approach results merely in a description of the demography of those clients in relation to their health service use. A more inclusive approach involving client-professional interaction variables would provide knowledge that could encourage health care providers to modify their behavior and or environments which may result in African American older adults' increased use of services in general, and increased level of participation in preventive health screenings in particular.

This research study also reveals that perception of health may not be as an important predictor of level of participation in preventive health screening as was once thought. A positive rating of self-health does not necessarily mean that clients are willing or see the need to participate in preventive health screenings.

In this study, support was found for the idea that African American older adults relate satisfying and effective client-professional interaction to level of participation in preventive health screenings. Even when considered with client singularity variables, client-professional interaction stood out as significantly related to the health outcome. Therefore, this finding gives support for the expansion of client-professional interaction

to include the environment that the health care provider creates. The construction of the client-professional interaction variable included items involving obtaining an appointment, wait time in the office, phone contact, and satisfaction with care. This study, along with others, (Bierman, & Clancy, 2001; Plaas, 2002; Taira, et al, 2001) provides support for the belief that "the clinician-patient interaction is influenced by how the clinical setting is organized" (Bierman, & Clancy, 2001, p. 156).

The finding that there is no difference between men and women in level of participation in preventive health screening is important. This cohort of older adults shares a distinct history that no other minorities in this country share. As a result, this group may be more homogeneous than heterogeneous in relation to the health outcome. Therefore, approaches to increase these older adults' level of participation in preventive health screenings could be similar. Any efforts should most certainly recognize the differences between men and women, but may also need to be cognizant of the shared history of this unique group.

Limitations

Several important limitations exist in this study. Although the results in the study support the theory of level of participation in preventive health screenings among community-dwelling African American older adults, the findings have limited generalizability. The participants in this study, while obtained nationally, may be an atypical sample of African American older adults. All participants had access to a health care provider, and all had some form of insurance coverage. Participants had a greater

amount of post-secondary education than older adults in the national average. This finding may contribute to the type of individuals that agreed to inclusion in the survey.

A longitudinal MEPS study examining ethnic differences in access to health service use, with sample sizes of 33,536 in 1977, 33,536 in 1987, and 20,793 in 1996, found an increase in health disparity particularly for Hispanic Americans. However, the authors caution that their findings must also take in consideration "differences within as well as between racial and ethnic groups" (Weinick, Zuvlekas & Cohen, 2000, p. 54), and the possibility of different cohorts of Hispanic Americans contained in the sample.

The present study also may contain within group differences, since both men and women comprise the sample. Also with participants ranging 65 to 90 years of age, there may be different cohorts of African American older adults.

Individuals in the survey had to agree to three or more interviews in their homes and had to sign release of information forms that allowed researchers access to their financial information. Older adults in general and African Americans in particular, are usually quite hesitant to reveal personal financial details. So the participants in this study were probably more trusting and more willing to engage/interact with their health care providers, which may explain the high levels of satisfaction with client-profession interaction.

Taira, et al (2001), in their MEPS study examining whether primary care patient assessments differ by patient ethnicity, with a sample size of 10,733, found that, in comparison to Whites, African Americans had less access to care and less continuity. Although disparity in care was confirmed, the cause of the differences was not

determined. One explanation for the findings includes possible differences in patient expectations or differences in rating tendencies.

The variables used in this study were operationalized using self-report items from the MEPS dataset. Many of the response sets were recoded prior to release of the dataset and items were collapsed making it difficult or impossible to use some items that may have more aptly represented the variables in the IMCHB.

Another concern with the dataset was lack of information regarding race or gender of interviewers. This is an important factor because race and gender congruent or non-congruent matchings may have contributed to willingness or unwillingness to participate in the survey. Another important factor in client-professional interaction is the cultural competency of the provider, which was not discussed in this study. Negative attitudes and stereotypes significantly impact the interactions, satisfaction with care, and health outcomes in minority patients ("Minorities Face Disparities", 2002).

A final limitation in this study was the small amount of variance accounted for. Another MEPS study reporting small variances examined medication use in community-dwelling older adults with a sample size of 2455. One of the explanations for the small amount of variance was the "considerable physiologic heterogeneity in the elderly population" (Zhan, Sangl, Bierman, Miller, et al, 2001, p. 2828). The participants in the present study have a shared cultural/ethnic history, but surely have physiologic as well as social-environmental differences not examined in this study.

Strengths

The Theory of Level of Participation in Preventive Health Screenings by Community-dwelling African American Older Adults was framed within Cox's IMCHB, a holistic nursing model that makes explicit the relationship of the health care provider in the health outcome. The IMCHB allowed this researcher to expand the definition of "affective support" to better convey the realities of the current health care delivery system. The findings lend further support to the postulates in the IMCHB that purport the major role of the client-professional interaction in influencing health outcome.

The sample was taken from the Medical Expenditure Panel Survey (MEPS) dataset, a nationally representative set of individuals drawn from the National Health Interview Survey, randomly selected from a stratified complex sample survey method. Few social science researchers use the MEPS dataset. Yet, there are many psychosocial items that could be appropriately mined by nurse researchers and other social scientists. Therefore, this researcher made ample use of the psychosocial items available to ask an a priori question and test a middle-range theory. SUDAAN was appropriately used to conduct the analysis, because it utilizes Taylor lineralization, a standard computation method to remove standard error.

Implications & Recommendations

Education

The findings from this research project have implications for education of all healthcare providers. All health care educational programs need to include more gerontology content addressing the implications of the increase of minority older adults in general, and African American and Hispanic older adults specifically. All curricula

should include more content: 1) concerning the role that the environment plays in conveying concern and care for the client, 2) regarding the need for on-going cultural competency training, 3) addressing the need to be aware of the interactions of staff and ancillary personnel that have access to clients prior to interaction with the provider, and 4) emphasizing the need to use theoretical frameworks for practice that make explicit the provider role in influencing the health outcome of older adults in general, and African American and other minorities in particular.

Policy

Policy analysts and lawmakers should provide incentives to those health care providers and agencies that demonstrate a commitment to provision of care to African American and other minority older adults. In addition to legislative enactments and economic incentives, lawmakers should require "report cards" that include measures of client-professional interaction and tie reimbursement to health outcomes such as level of participation in preventive health screenings.

Managed care initiatives were developed to manage health risks among groups of clients. Therefore, managed care organizations should be concerned with level of participation in preventive health screenings. Findings from this research project along with similar reports should be funneled to managed care organizations, so that consideration can be given to the well-known time constraint of 15 minutes or less per office visit. Short length of visits may not be conducive to establishing a relationship that is viewed as satisfying and facilitating of a higher level of participation in preventive health screenings (Cole, et al, 2001; Taira, et al, 2001).

Practice

The IMCHB is a useful choice for providing a holistic approach to care. Operationalization of client-professional interaction in this study involved items related to obtaining an appointment with the provider, wait time to see the provider, ability to reach the provider by phone and overall satisfaction with the providers' care. These elements are often not measured and used as an indicator of the level of affective support on the part of the health care provider. In this study, it was shown that these combined items, as a measure of client-professional interaction, were related to level of participation in preventive health screenings.

The practice implications of this study include the need for the healthcare provider to be involved in the training, monitoring and evaluation of all staff and personnel involved in the care of clients. Often business managers are responsible for the hiring and supervision of receptionists, medical assistants, and nurses that comprise the support staff for a primary clinic or office. Few of these individuals have had training specific to the interpersonal skills needed to interact with older adults and/or minority individuals.

Ongoing in-service training involving issues of cultural competency, customer service, and appointment management should be a requirement for all staff and office personnel. Surveys that measure overall client-professional interaction should be used in annual evaluation of all members of the clinic or office. Appointing a group of patients from the practice as an advisory group might also be helpful in ensuring that clients maintain satisfying and effective client.

Research

The findings from this research support the Theory of Level of Participation in Preventive Health Screenings among African American Older Adults. However, this is a beginning descriptive correlational research project. Therefore, more extensive study is needed to fully evaluate the theory. The next research study utilizing the dataset will be a path analysis that will permit causal relationships to be identified. A future study would be to obtain first person accounts of the experience of participation in preventive health screening via phenomenological interviews of African American older adults. A natural follow-up to the present study would be to extend the theory to include middle-aged African American adults and compare their level of participation in preventive health screenings with that of the older adults in this research study. A study that would provide even stronger support to the theory would be a longitudinal study including MEPS data from previous and future years. Further description of level of participation in preventive health screenings could be obtained by phenomenological interview of older adults' experience of obtaining screenings.

More information regarding the relationship among specific screenings (i.e., clinical breast examination, colorectal) and client-professional interaction is also needed. Inclusion of other minority groups such as Hispanics and Asians would provide a more comprehensive description of level of participation in preventive health screenings among minorities. Research studies that involve different members of the healthcare team, such as advanced practice nurses and primary care physicians, could be undertaken

to compare client satisfaction with client-professional interaction and level of participation in preventive health screening.

Intervention studies involving the effectiveness of specific training techniques for health care providers in increasing their level of satisfying and effective client-professional interaction could also be carried out. These studies could be followed by longitudinal studies to discover whether or not interventions that propose to increase health care provider proficiency in client interaction ultimately make a difference in African American older adults' level of participation in preventive health screenings. The examination of client-professional interaction influence on different health outcomes as defined in the Cox's IMCHB, (clinical health status indicators, severity of health care problem, adherence to recommended care regimen, and satisfaction with care) would also extend the IMCHB as well as the middle-range theory. Also, a comparison of the operationalization of affective support used in this study with the usual operationalization (communication, listening, etc) of this element would provide further knowledge regarding the usefulness of these operationalizations of variables in framing research studies.

Summary

This chapter presented a discussion of the results from the research study examining the influence of client-professional interaction on level of participation in preventive health screenings. Specifically, the findings were discussed by research question, followed by conclusions, limitations, strengths, and implications for education, policy, practice and research. The findings supported the hypothesis that client-professional interaction is a predictor for level of participation in preventive health

screening. This study expanded nursing science as it relates to African American older adults' health behavior. In addition, the usefulness of the IMCHB was extended. While the results supported the middle-range theory, there still was a large percentage of variance not explained by the study variables. These findings highlight the need for further research to expand (or enhance) understanding all the elements involved in level of participation in preventive health screenings by community-dwelling African American older adults. Further, this study offers support to move in the direction of predicting participation in preventive health screenings by African American older adults.

The *Healthy People 2000* goals and objectives attempted to close the gap or chasm of health disparity. However, those goals were not achieved and the disparity in the health of minority groups, such as African Americans, continues to exist today, two years into the *Healthy People 2010* national health objectives. It is unconscionable that any group of Americans, regardless of ethnicity, continues to suffer disproportionately from preventable and treatable diseases, in a country known for its wealth and technology. Nurses, nurse scientists particularly, must answer the clarion call to provide strategies that clearly address disparity in health and provide creative and innovative strategies that can eliminate the gap or chasm in health disparity (Flaskerud, 2002). This study was a beginning step by this researcher to answer the call to identify elements that contribute to health disparity in level of participation in preventive health screening Among African American community-dwelling older adults.

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APPENDIX

IRB Letter

THE UNIVERSITY OF TENNESSEE

MEMORANDUM

College of Nursing
1200 Volunteer Boulevard
Knoxville, Tennessee 37996-4180
(865) 974-4151
FAX (865) 974-3569

TO: Becky Fields
Sandra Thomas

FROM: Maureen Groer

DATE: January 8, 2002

RE: Form A - Impact of Client/Professional Interaction on Health Service Utilization among Community-dwelling African American Older Adults: Use of Cox's Interaction Model of Client Health Behavior (IMCHB)
Becky Fields & Sandra Thomas

Your Form A has been reviewed and approved by the College of Nursing, Committee on Research Involving Human Subjects.

Best of luck in your endeavors.

MG:jb
Attachments

VITA

Becky Lynn Fields received her Bachelor of Science Degree in Nursing from the University of Tennessee, Knoxville in 1988. Becky worked as a staff nurse for one year at the University of Tennessee Medical Center and obtained a chemotherapy certification while there. She later accepted an appointment at Walters State Community College (WSCC) in the Health Sciences Department as an Instructor of Nursing. After two years employed at WSCC, Becky accepted a position as a nurse manager at a home health agency and later went to work as an occupational health nurse at Knoxville Utilities Board (KUB). While at KUB, Becky completed her Masters of Science degree in Psychiatric Mental Health Nursing from the University of Tennessee, Knoxville in 1992. In the fall of 1993, Becky accepted an appointment at the University of Tennessee, Knoxville as an Instructor in Nursing. After five years of teaching, Becky took a leave of absence and entered the Doctoral Program at the University of Tennessee, Knoxville, College of Nursing, completing her studies in July 2002. During her doctoral studies, Ms Fields completed a post-Master's in Adult Health with a specialization in Gerontological Nursing, and a minor in Gerontology. Dr. Fields hopes to accept an appointment at a major university and participate in graduate teaching in gerontology and continue her research focus examining the preventive health service use of African American older adults.